

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A laser irradiation method comprising:

changing a first laser beam emitted from a solid-state laser oscillator which oscillates a laser beam having a spectral width which is 0.1 nm or more into a second laser beam whose intensity distribution is homogenized by passing through a beam homogenizer;

making the second laser beam pass through a ~~[[first]]~~ condensing lens ~~and a second condensing lens~~ after passing through the beam homogenizer;

making the second laser beam enter an irradiation surface; and

moving the second laser beam relative to the irradiation surface so as to form a crystal grain grown continuously in a moving direction;

~~wherein the solid state laser oscillator includes a crystal of ceramic doped with Yb.~~

2. (Currently Amended) A laser irradiation method comprising:

changing a first mode-locked pulsed laser beam emitted from a solid-state laser oscillator which oscillates a laser beam having a spectral width which is 0.1 nm or more into a second laser beam whose intensity distribution is homogenized by passing through a beam homogenizer;

~~changing~~ making the second laser beam ~~into a third laser beam by condensing the second laser beam on a plane by using~~ pass through a ~~[[first]]~~ condensing lens after passing through the beam homogenizer;

making the ~~[[third]]~~ second laser beam enter an irradiation surface ~~through a second condensing lens; and~~

moving the ~~[[third]]~~ second laser beam relative to the irradiation surface,
~~wherein the second condensing lens is disposed at a position where the plane~~
~~and the irradiation surface are in a conjugate relation, and~~
~~wherein the solid state laser oscillator includes a crystal of ceramic doped with~~
~~Yb.~~

3. (Currently Amended) A laser irradiation method comprising:
changing a first laser beam emitted from a solid-state laser oscillator which
oscillates a laser beam having a spectral width which is 0.1 nm or more into a second
laser beam whose intensity distribution is homogenized by passing through a beam
homogenizer;
changing the second laser beam into a third laser beam by using a slit to block
an end portion of the second laser beam;
making the third laser beam pass through a condensing lens and a projecting
lens so that an image of the third laser beam formed by the slit is projected onto an
irradiation surface; and
moving the irradiation surface relative to the third laser beam so as to form a
crystal grain grown continuously in a moving direction,
wherein the projecting lens is disposed at a position where the slit and the
irradiation surface are in a conjugate relation~~[[, and]]~~
~~wherein the solid state laser oscillator includes a crystal of ceramic doped with~~
~~Yb.~~

4. (Original) The laser irradiation method according to any one of Claims 1 to 3,
wherein the condensing lens is a convex cylindrical lens or a convex spherical
lens.

5. (Currently Amended) The laser irradiation method according to any one of

Claims 1 to 3,

wherein the solid-state laser oscillator is a solid-state laser oscillator which includes a crystal of sapphire, YAG, ceramic YAG, ceramic Y_2O_3 , KGW, KYW, Mg_2SiO_4 , YLF, YVO_4 , or $GdVO_4$ ~~the crystal of ceramic YAG or ceramic Y_2O_3~~ doped with at least one of Nd, Yb, Cr, Ti, Ho, and Er.

6. (Previously Presented) The laser irradiation method according to any one of Claims 1 to 3,

wherein the laser beam is converted by a non-linear optical element.

7. (Previously Presented) The laser irradiation method according to any one of Claims 1 to 3,

wherein the beam homogenizer uses any one of a cylindrical lens array, a light pipe, and a fly-eye lens.

8. (Previously Presented) A digital video camera, a digital camera, a navigation system, a sound reproduction device, a display, a mobile terminal, a thin film integrated circuit device, or a CPU manufactured by using the laser irradiation method according to any one of Claims 1 to 3.

9. (Currently Amended) A laser irradiation apparatus comprising:

a solid-state laser oscillator for oscillating a laser beam having a spectral width which is 0.1 nm or more;

a beam homogenizer for homogenizing intensity distribution of the laser beam emitted from the solid-state laser oscillator;

a [[first]] condensing lens for condensing the laser beam which has passed through the beam homogenizer; and

~~a second condensing lens for condensing the laser beam which has passed through the first condensing lens; and~~

means for moving an irradiation surface ~~of the laser beam~~ relative to the laser beam so as to form a crystal grain grown continuously in a moving direction;

~~wherein the solid-state laser oscillator includes a crystal of ceramic doped with Yb.~~

10. (Currently Amended) A laser irradiation apparatus comprising:

a solid-state laser oscillator for oscillating a mode-locked pulsed laser beam having a spectral width which is 0.1 nm or more;

a beam homogenizer for homogenizing intensity distribution of the mode-locked pulsed laser beam emitted from the solid-state laser oscillator;

a condensing lens for condensing the mode-locked pulsed laser beam which has passed through the beam homogenizer on a plane; and

means for moving an irradiation surface relative to the laser beam;

~~wherein the condensing lens is disposed at a position where the plane and the irradiation surface are in a conjugate relation; and~~

~~wherein the solid-state laser oscillator includes a crystal of ceramic doped with Yb.~~

11. (Currently Amended) A laser irradiation apparatus comprising:

a solid-state laser oscillator for oscillating a laser beam having a spectral width which is 0.1 nm or more;

a beam homogenizer for homogenizing intensity distribution of the laser beam emitted from the solid-state laser oscillator;

a slit for blocking an end portion of the laser beam whose intensity distribution has been homogenized by the beam homogenizer;

a condensing lens for condensing the laser beam;

a projecting lens for projecting an image of the laser beam formed by the slit onto an irradiation surface; and

means for moving the irradiation surface relative to the laser beam so as to form a crystal grain grown continuously in a moving direction, and

wherein the projecting lens is disposed at a position where the slit and the irradiation surface are in a conjugate relation[[, and]]

~~wherein the solid-state laser oscillator includes a crystal of ceramic doped with Yb.~~

12. (Original) The laser irradiation apparatus according to Claim 10 or 11, wherein the condensing lens is a convex cylindrical lens or a convex spherical lens.

13. (Currently Amended) The laser irradiation apparatus according to any one of Claims 9 to 11,

wherein the solid-state laser oscillator is a solid-state laser oscillator which includes a crystal of sapphire, YAG, ceramic YAG, ceramic Y₂O₃, KGW, KYW, Mg₂SiO₄, YLF, YVO₄, or GdVO₄ ~~the crystal of ceramic YAG or ceramic Y₂O₃ doped with at least one of Nd, Yb, Cr, Ti, Ho, and Er.~~

14. (Previously Presented) The laser irradiation apparatus according to any one of Claims 9 to 11,

wherein the laser beam is a harmonic converted by a non-linear optical element.

15. (Previously Presented) The laser irradiation apparatus according to any one of Claims 9 to 11,

wherein the beam homogenizer is any one of a cylindrical lens array, a light pipe, and a fly-eye lens.

16. (Previously Presented) A digital video camera, a digital camera, a navigation system, a sound reproduction device, a display, a mobile terminal, a thin film integrated circuit device, or a CPU manufactured by using the laser irradiation apparatus according to any one of Claims 9 to 11.

17. (Previously Presented) The laser irradiation method according to claim 1, wherein a fundamental wavelength is converted into harmonic in the solid-state laser oscillator.

18. (Previously Presented) The laser irradiation method according to claim 2, wherein a fundamental wavelength is converted into harmonic in the solid-state laser oscillator.

19. (Previously Presented) The laser irradiation method according to claim 3, wherein a fundamental wavelength is converted into harmonic in the solid-state laser oscillator.

20. (Previously Presented) The laser irradiation apparatus according to claim 9, wherein a fundamental wavelength is converted into harmonic in the solid-state laser oscillator.

21. (Previously Presented) The laser irradiation apparatus according to claim 10, wherein a fundamental wavelength is converted into harmonic in the solid-state laser oscillator.

22. (Previously Presented) The laser irradiation apparatus according to claim 11,
wherein a fundamental wavelength is converted into harmonic in the solid-state laser oscillator.